

The genus *Phymatolithon* in South Africa

Recent molecular studies are showing that we have highly (possibly by as much as 2-4 times that which is currently recognised by morphological and anatomical features) underestimated the nongeniculate coralline algal diversity across the globe. More interestingly, we are increasingly showing that corallines are generally not widely distributed across ocean basins. *psbA* and *rbcL* sequences available for several specimens currently ascribed to *Phymatolithon* show that the genus requires substantial revision in the light of ongoing taxonomic revision. Similar such revisions have been shown for the ecologically important genus *Spongites* in South Africa and are currently being finalised through a FBIP supported PhD degree (see FBIS150609118997). The peripheral findings (the PhD was focused solely on the genus *Spongites*) from that PhD degree (based on specimens in the PhD collection) has suggested that: 1) at least one species (*P. repandum*, type locality – Victoria, Australia) ascribed to the region does not occur in South Africa and has in fact been misidentified; and 2) that an additional species (*P. ferox* – type locality KwaZulu-Natal, South Africa) comprises at least two different species. Sequences deposited in GenBank support these findings and suggest that the genus *Phymatolithon* in South Africa comprises 4/5 unique taxa, each endemic to the Southern African region. In addition to providing an updated taxonomic account of the genus using both DNA sequencing and traditional morpho-anatomical data, this study aims to contribute to the global discussion on the regional endemism within the ecologically important coralline algae?